

### Mining-induced displacement and resettlement: social problem and human rights issue

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Preprint / Preprint

Forschungsbericht / research report

#### Empfohlene Zitierung / Suggested Citation:

Terminski, B. (2012). *Mining-induced displacement and resettlement: social problem and human rights issue*. Genf.  
<https://nbn-resolving.org/urn:nbn:de:0168-ssoar-327774>

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**MINING-INDUCED DISPLACEMENT AND RESETTLEMENT:  
SOCIAL PROBLEM AND HUMAN RIGHTS ISSUE  
(A GLOBAL PERSPECTIVE)**

Kosovo  
Republic of South Africa  
Serbia  
Chile  
Indonesia  
Senegal  
Bolivia  
Zimbabwe  
Philippines  
Papua New Guinea  
Mali  
Venezuela  
Namibia  
Germany  
Peru

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## Introduction

The mining industry is frequently associated with decisions that have enormous social consequences. One of the most negative effects of mining today is the forcing of thousands of people to abandon their current places of residence. Gold mines in Tarkwa, open-cast copper mines in Papua New Guinea or Jarkhand (India), lignite mines in Germany, and diamond mines in Zimbabwe are just a few examples of activities leading to the displacement of large numbers of people worldwide. Today, mining-induced displacement constitutes a major social problem and a challenge for human rights. This particular issue affects at least one million people around the world per year. As pointed out by Downing only in India mining development displaced more than 2.5 million people between 1950 and 1990.<sup>1</sup> It is therefore of great importance to conduct its profound analysis as well as inspire broad public debate. According to specialists from the Oxford Refugee Centre (published in 2000), the extraction of mineral resources is the cause of about ten percent of the development-induced displacement that takes place in the world each year.<sup>2</sup>

This report does not pretend to provide a comprehensive in-depth analysis. Its purpose is to highlight the problems encountered by displaced people in various parts of the world and complement already existing literature in this area. Contemporary literature on development-induced displacement (Cernea, De Wet, Penz, etc.) focuses mostly on the consequences of dam construction, irrigation projects, and artificial reservoirs. The literature of Mining-Induced Displacement and Resettlement (MIDR) is rather small and limited to the well-known cases of contemporary India and a few African states. Specialists rarely look into the subject of mining-induced displacement and its social consequences. However, some instructive examples do exist. One particularly valuable and detailed study worth mentioning is entitled, *Avoiding New Poverty: Mining-Induced Displacement and Resettlement*, published in 2002 by Theodore E. Downing.<sup>3</sup> Another equally important book concerning this issue is the report, *Dirty Materials: Mining, communities and environment*, prepared in 2004 by Oxfam America Earthworks.<sup>4</sup> My publication concentrates—to a much greater extent—on the issues of human rights and the theoretical

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1 S. Somayaji, S. Talwar (eds.), *Development-induced Displacement, Rehabilitation and Resettlement in India*, Routledge, 2011, pp. 94.

2 A. Rew, E. Fisher, B. Padney, *Addressing Policy Constraints and Improving Outcomes in Development-Induced Displacement and Resettlement Projects* (Final Report), Refugee Studies Centre, University of Oxford, January 2000.

3 T.E. Downing, *Avoiding New Poverty: Mining-Induced Displacement and Resettlement*, IIED and WBCSD, London, 2002, Research Paper No. 58.

4 *Dirty Metals: Mining, Communities and the Environment*, A Report by Earthworks and Oxfam America, Oxfam America, 2004.

conceptualization of the subject. It also underlines the global nature of MIDR. As I argue here, the problem should not be limited to developing countries in Asia and Africa. Instead, this work intends to cast more light on the following themes:

1. Section one theoretically conceptualizes and encompasses mining-induced displacement and resettlement as a specific category of development-induced displacement and resettlement (DIDR). MIDR is a fairly obvious cause of DIDR and a part of its global context, yet there are some crucial differences that ought to be indicated in order to show that it is a very diverse issue indeed. In particular, I will try to analyze the mining branches and techniques which are socially detrimental. Among them, we can distinguish the open-pit mining of several resources: coal, lignite, copper, gold, diamonds, and, on a limited scale, also crude oil.
2. Section two depicts mining-induced displacement and resettlement in terms of a global social problem occurring in many countries around the world. The mining sector is an important factor in resettlement on all continents, so we cannot treat MIDR as the sole pitfall of underdeveloped/developing countries. Even in highly developed countries like Germany, resettlement caused by mining activity is an important social problem. On the other hand, it must certainly be admitted that in countries with a tradition of enlightened individualism, strong protection of property rights, and citizen participation in government, problems of this kind are uncommon and much less spectacular than anywhere else.
3. Section three presents the most well-known examples of displacement caused by mining. Detailed case studies were used as the basis for exposing general features of the issue. For these, I gathered the most interesting examples of resettlement (India, Ghana, China, and Papua New Guinea). Additionally, a unique part of this paper covers an analysis of mining-induced resettlement in Europe. According to estimates over the past 60 years, lignite mining in Germany has consequently led to the displacement of more than 100,000 people. The effects of mining also pose a real challenge in Central and Eastern Europe. This publication takes the form of a handbook: a kind of 'guide' through the most famous cases of mining-induced displacement worldwide.

4. Section four emphasizes the social dimension of mining expansion and the importance of MIDR as a human rights issue. The most important piece of work encompasses reflections on the impact of resettlement on the sphere of human rights. The implementation of mining-caused resettlement generally reflects the national standards for other categories of development-induced displacement and resettlement. Inappropriate standards of displacement take place mostly in poor and undemocratic developing countries. Usually, resettlements are carried out randomly, with no specific plans. Displaced persons face many problems in the new places of residence. Authorities are not active enough in integrating displaced people into local communities. Various categories of indigenous and tribal people (for example in India, Papua and Brazil) are particularly affected by the consequences of relocation. Mining-induced displacement leads to a violation of many individual and collective human rights. Problems of people displaced by development are increasingly becoming the focus of human rights organizations (especially in India, Brazil, and Ethiopia). The advantage of this paper is its stronger orientation towards human rights and the social dimension of MIDR than previous works. The publication draws attention to the scale of mining-induced displacements in diverse countries as well as the social consequences of this phenomenon. Its primary purpose is a focus on political circles, decision makers, and human rights activists and the social effects of mining. Analyses of development--induced displacement are often reduced to the consequences of dam building in China and India, and thus they miss the point. The development of mining areas also contributes to social change, such as the epic scale of resulting resettlement. Indigenous and tribal peoples are particularly at risk for negative consequences; these groups do not have adequate mechanisms for adaptation to the new situation. Given the link between resource extraction and the overall development of mining industries with the subsequent degradation of the areas in which they occur, it is obvious that the balance of economic benefits and social costs are worth considering. Alternative energy sources are, however, expensive, and the chances of their use in developing countries are still relatively low.

## **1. Mining-induced displacement and resettlement: A specific category of development-induced displacement and resettlement**

Scientific publications regularly enumerate four causes of involuntary displacements: conflicts, natural disasters, long-term environmental changes, and development. Although useful, these categories do not exhaust all the possibilities that are likely to occur. In many cases, such as in discrimination against minorities, the reliable categorization of casual factors behind displacement is simply unachievable. It is difficult to say today whether ‘displacement’ should be treated as a homogenous notion or rather an atomized one. Although many types of displacements have much in common, there are sharp differences between them as well.

Development-induced displacement is probably the second largest category of resettlement.<sup>5</sup> Each year, approximately fifteen million people are displaced as a consequence of large investments (Cernea, 2006).<sup>6</sup> The problem was exposed in the mid-fifties during the construction of large dams in Africa. It is worth mentioning here the long-lasting research conducted by American anthropologist Thayer Scudder concerning displacement during the construction of the Kariba dam in Zambezi. First attempts to theoretically conceptualize the whole problem began in 1985 with the publication of a work by Michael M. Cernea, *Putting People First: Sociological Variables in Rural Development*. Thus, the scientific understanding of ‘development-induced displacement and resettlement’ was shaped by the effects of building large dams, not by any social consequences of mining.

We can discern many causes of development-induced displacement. Among them, six are the most substantial: 1. the construction of dams, hydroplants, and large irrigation projects (e.g. Three Gorges Dam, Sardar Sarovar complex on the river Narmada); 2. the building of roads, highways, and railroad networks; 3. urbanization and social services (e.g. urban transport, water supply); 4. the development of agriculture (e.g. creation of monoculture plantations); 5. the establishment of national parks, reserves, or other zones of protected nature; and 6. other causes.

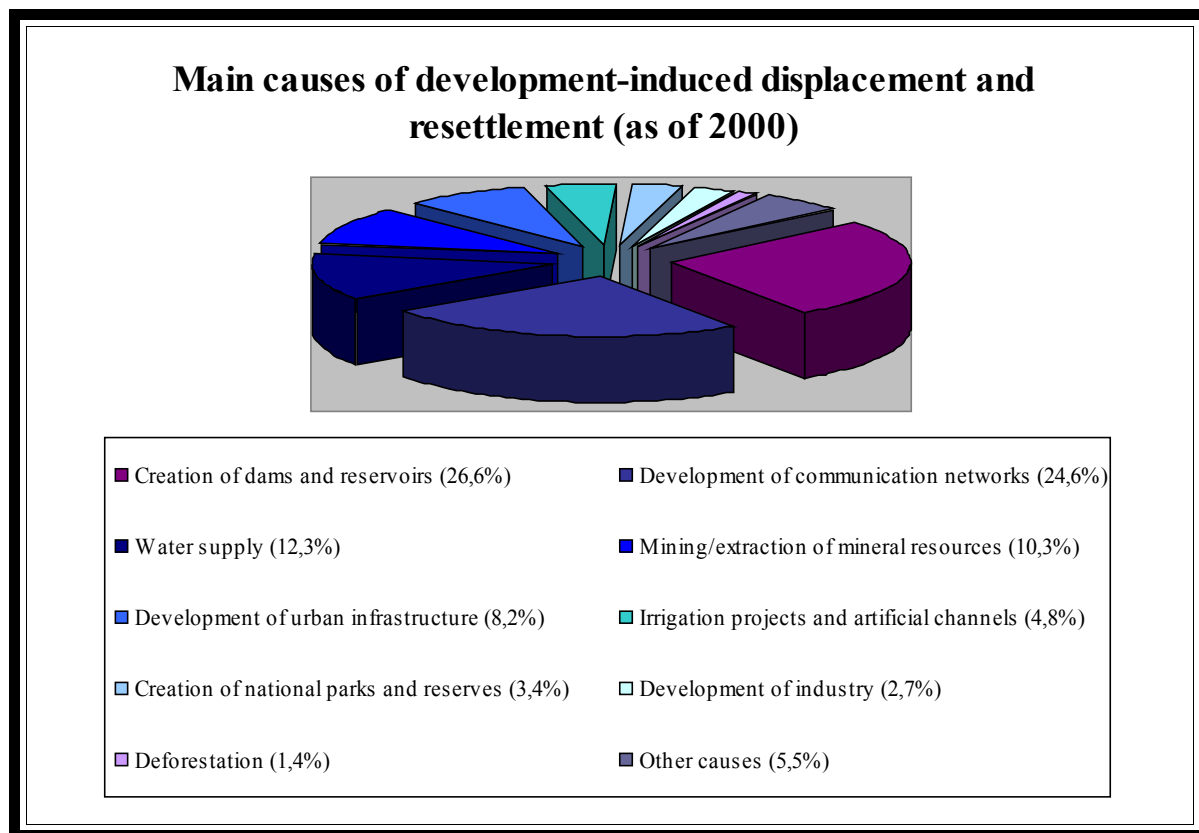
According to a 2001 Oxford Refugee Centre report, the mining industry is the fourth greatest cause of development-induced displacement. Its basic statistical conclusions are presented in the table

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5 The most dynamic category of internal displacement is disaster-induced displacement: 14,9 million people in 2011, according to the IDMC report.

6 M.M. Cernea, "Development-induced and conflict-induced IDPs: bridging the research divide", *Forced Migration Review*, 2006.

below.



Source: A.Rew, E. Fisher, B. Pandey, *Addressing Policy Constraints and Improving Outcomes in Development-Induced Displacement and Resettlement Projects* (Final Report), Refugee Studies Centre, University of Oxford, January 2000.

Note: The presented estimates are only approximate in nature, referring to the global context. Do not, therefore, take into account specific resettlements in different regions of the world (cf. the applied research methodology).

At least one in ten cases of development-induced displacement is caused by mining. It seems obvious, then, that mining-induced displacement and resettlement should be recognized as a fully autonomous category of development-induced displacement and resettlement. Lack of any national data and a small degree of interest within international institutions makes it difficult to circumscribe the approximate scale of the phenomenon. Yet, when we take into account the alarming reports from non-governmental organizations, we can, with a high dose of certainty, define it as a crucial social problem at least in several countries in the world. Furthermore, we may speak about the presence of people displaced by mining in several dozen countries—people highly prone to many specific threats.

The first cases of displacement resulting from mining activity can be dated back to 19<sup>th</sup>-century India (and the practices of British colonists) or the United States. Actions of this kind were undertaken in Africa, which was divided at that time among the colonial empires as well as against



Indians, due to the gold rush that had broken out in America. In the majority of cases, the natives became the victims, a situation which has not changed to the present day. The rapid development of technology in the 20<sup>th</sup> century has transformed mines into large industrial facilities. Big companies exploiting open-pit mines rarely pay attention to the situation of local communities. The internationalization of capital flow, along with the conduction of extraction by transnational corporations, make it difficult to determine who is really responsible for the social problems triggered by mining. By exploiting mines in developing countries, Western and Chinese companies occasionally commit practices that are ambiguous as regards the environment and society. With globalization mining has become a huge source of profits for the transnational corporations.

Mining-induced displacement is not limited to poor and developing countries. Problems of this kind also take place in the United States and in European countries like Germany, Serbia, and Poland. Nevertheless, the high standards of rights-protection institutions and the responsiveness of business to public opinion hold back such negative practices there. Unlike in the cases of Africa and Asia, homelessness, unemployment, social marginalization, or health problems are not ordinarily the result of displacement in the developed world. Redress is mostly paid with surplus, which means it covers the economic and social costs of relocation. MIDR constitutes a real problem where the division between North and South is particularly perceptible. When analyzing development issues in Africa and Asia, it is worth referring to previous European experiences.

Mining-induced displacement is present in many countries worldwide. In several of them, however, it constitutes a visible and burning social issue that poses a threat to human rights. These countries are India, Ghana, and Mali. There is less interest in the scale of the phenomenon in China. Admittedly, the whole body of literature on this subject is exceptionally small. So let us draw attention to the fact that MIDR is present in countries in which we observe other forms of development-induced displacement. Ghana is a country with an extremely interesting peculiarity of displacements. Environmentally-induced displacement (migration from North to South) is accompanied by various causes of DIDR (mining, the construction of the Akosombo dam). Development-induced displacement is equally heterogeneous in India and China.

The problems of people resettled due to mining development are analogous to those with which other categories of people displaced by development struggle. We might mention here the problems of indigenous and tribal people, or the environmental after-effects of mining. We observe at least a

few specific processes at play. One of them is the issue of whether local communities are sharing in the profits from the exploitation of resources. If a person is forced to leave his/her residence located in an area with potentially big profits, he/she should receive concrete gratifications. Compensation for lost land meaningfully exceeds indemnification for land abandoned for other reasons, whereas struggle for the ultimate quotas is always very fierce. Long-lasting negotiations lead to signing detailed “displacement agreements” between corporations and populations. Big firms often agree to various forms of compensation, such as, for instance, the promise of employing displacees in mines. The social consequences of mining-induced displacement are an intensely complex and relevant issue which is rather poorly described in the literature. According to specialists 60 percent of world natural resources are located in indigenous lands.<sup>7</sup>

Mining-induced displacement and resettlement phenomena do not represent the sole physical change of residence. In other words, the amount of remaining people affected by the environmental effects of mining regularly exceeds the amount of displaced people. The pollution of ground water, a decrease in agricultural efficiency, the proliferation of diseases, and psychological effects are just some of the problems mentioned by experts.

Any scientific analysis of MIDR should distinguish between various categories of resettlement and displacement. Mining-induced displacement and resettlement is not only an issue of development-induced displacement, but also of ethnic conflicts, the struggle for resources, access to land, indigenous rights, the question of self-determination of tribal people and local communities, and sustainable development. Environmental disruption caused by mining can also cause subsequent environmentally-induced displacement.

## **2. Mining-induced displacement and resettlement: A human rights issue**

Just like other DIDR categories, mining-induced displacement leads to mass infringements upon human rights. This stems from assymetric capacities of local communities vis-à-vis big corporations that have money at their disposal, contacts in power circles, and a huge legal backroom. The engagement of entire communities and non-governmental organizations is a necessary condition for protecting local interests. According to Walter Fernandes

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7 M. Belausteguigoitia Rius, M. Gómez Alvarez Icaza, Iván González Márquez “Indigenous Women in Defence of Life and Land: An introduction”, *Development*, Vol. 54, No. 4, 2001, pp. 470-472.

“No global survey has been made of the scale of MIDR. The little information available points to high displacement in the past and a rising trend for the future as rich mineral deposits are found in areas with relatively high density of politically powerless populations, low land prices because of the backwardness of the area, poor definition of land tenure and open-cast mining. In every country including India, most persons affected are tribal and other indigenous peoples.”<sup>8</sup>

Indigenous people who are integrated with the land are particularly endangered by the consequences of displacement. For them, land performs not only the function of economic and social networks, but also their cultural point of reference. They agree to be displaced only with reluctance, because apart from a loss of sovereignty it means atomization and social marginalization. According to Janssens et al. (2008) the most negative consequences of contemporary mining are land and water contamination, disruption or displacement of communities, clashes between citizens and state forces, and the involuntary migration of rural people to cities.<sup>9</sup>

Among the effects of resettlements affecting indigenous people, Theodore Downing distinguishes: “suffering a loss of land, short and long-term health risks, loss of access to common resources, homelessness, loss of income, social disarticulation, food insecurity, loss of civil and human rights, and spiritual uncertainty.”<sup>10</sup> Walter Fernandes, who studied the impact of modernization and development projects on tribal people in India, also points to similar problems.<sup>11</sup> It seems that the reconciliation of economic development directives with the realization of the well-being of tribal people is currently impossible.

Loss of land appears to be the main threat caused by mining. It leads not only to economic problems but also to the loosening of economic ties. Temporary financial compensations seem inadequate in relation to the long-term social, environmental, and economic costs of mining activity. Thus establishing durable mechanisms of welfare is of substantial concern for the prevention of unemployment and housing problems, and for the equalization of educational opportunities.

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8 W. Fernandes, “Managing the Social and Environmental Consequences of Coal Mining in India” [in] G. Singh, D. Laurence and K. Lahiri-Dutt (eds), *Managing the Social and Environmental Consequences of Coal Mining in India*, The Indian School of Mines University, Dhanbad, pp. 333-344.

9 D. Janssens (et al.). (2008). *Blinkt alle goud? Mijnbouw, ecologie en mensenrechten*. [http://www.mo.be/fileadmin/pdf/MO-paper\\_Mijnbouw.pdf](http://www.mo.be/fileadmin/pdf/MO-paper_Mijnbouw.pdf).

10 T.E. Downing, J. Moles, I. McIntosh, C. Garcia-Downing, *Indigenous Peoples and Mining Encounters: Strategies and Tactics*, International Institute for Environment and Development-World Business Council for Sustainable Development, Working Paper no. 57, April 2002, pp. 20.

11 On the development and tribal issues in India see: S.K. Mishra, “Development, Displacement and Rehabilitation of Tribal People: A Case Study of Orissa”, *Journal of Social Sciences*, vol. 6, no. 3, 2002, pp. 187-208; R. Meher, “Globalization, Displacement and the Livelihood Issues of Tribal and Agriculture Dependent Poor People. The Case of Mineral-based Industries in India”, *Journal of Developing Societies*, vol. 25, no. 4, October-December 2009, pp. 457-480.

Another important issue is the granting of land rights to local communities and, through this, of a share in any profits from the exploitation of resources.

As noted by van Criekinge, mining is an unstable and not very promising source of income. The average period of open-pit exploitation is 10-40 years. Then, any work, money, and social benefits provided by corporations disappear.

Development of the mining sector should be based upon the principles of sustainable development. Mining ought to contribute not only to the maximization of profits for big corporations but also to the prosperity of local communities. It often leads not to the economic progress of the region but to its long-lasting collapse. Unemployment increases and the environment deteriorates, forcing people to migrate.

Beyond economic and social rights, the environmental rights of local communities are endangered as well. The effect of mining on health is as big a problem as the displacement itself. The deforestation of large areas of forest causes irreversible disturbances in local habitat. As research shows, the environmental consequences of open-pit mines are noticeable by inhabitants of places even several dozen km removed.

For the analysis of people displaced by mining, we can refer to the Impoverishment Risks and Reconstruction (IRR) model constructed by Michael M. Cernea. Among the negative effects of displacements, he distinguishes: 1. landlessness; 2. joblessness; 3. homelessness; 4. marginalization; 5. increased morbidity and mortality; 6. food security issues; 7. loss of access to common property, and; 8. social disarticulation and community breakdowns.<sup>12</sup> We can mention also loss of schooling (Mahapatra, 1999) and problems with access to public services (Mathur, 2006).<sup>13</sup> Each of the above-mentioned problems may constitute the consequences of MIDR.

MIDR pose serious risks to several forms of human security and well-being. The UNDP's 1994 Human Development Report's definition lists seven fundamental pillars of human security:

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12 M.M. Cernea, "Risks, Safeguards and Reconstruction: A Model for Population Displacement and Resettlement", *Economic and Political Weekly*, vol. 35, no. 41, October 7-13, 2000, pp. 3659-3678; see also: A. Chakrabarti, A. Dhar, *Dislocation and Resettlement in Development. From third world to the world of the third*, Routledge, New York, 2009, pp. 61.

13 K.B. Saxena, "Rehabilitation and resettlement of displaced persons. A critical examination of national policy and the proposed bills" [in] S. Somayaji, S. Talwar, (eds.), *Development-induced Displacement, Rehabilitation and Resettlement in India. Current issues and Challenges*, Routledge, 2011, pp. 94.

economic security, food security, health security, environmental security, personal security, political security and community security. Finally, we can mention two other security threats: gender (in)security and cultural (in)security.

In 2004, the Earthworks-Mineral Policy Center and Oxfam America launched a “No Dirty Gold” campaign to change unsavoury practices in gold mining. Citizens of the West who buy golden jewellery often do not realize that, in many African states, gold mining is associated with violations of human rights, persecution of human rights activists, protests against displacement or environmental degradation, and even violent conflicts. An important part of the “No Dirty Gold” campaign was the preparation of a report entitled, *Dirty Metals: Mining, Communities and the Environment*, which details environmental and social problems caused by gold mining.<sup>14</sup> The target of this campaign was to curtail the sale of ‘dirty gold’, that is, “gold that comes from areas of conflict and harms both humans and the environment.”<sup>15</sup>

Mining-induced displacement also causes the violation of women’s rights. According to some specialists, women tend to be much more affected in the aftermath of displacement. They lose land needed for crop production, which is an important part of maintaining the family. Women displaced in Ghana following the development of mining emphasize that land loss is the worst problem affecting their normal functioning. Mining activities lead to the deterioration of the economic status of women, along with malnutrition, health problems, lack of access to basic resources, etc.<sup>16</sup>

It is necessary to strengthen adaptation and rehabilitation programs for displaced families. Such families should have the possibility of continuing the existing conditions of life in their new places of residence. Any attempts to transfer populations to excessively different neighborhoods fail. Those displaced from rural areas should have access to pasture and other facilities necessary to them. Rehabilitation programs are a common form of assistance to tribal people in India, but in many regions of the world they are not used at all. NGOs can play a significant role in the planning, negotiation, and implementation of resettlement. It is therefore necessary to strengthen NGOs in developing countries.

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14 The phenomena of conflict minerals and blood diamonds are of a similar nature.

15 “Target Pledges Not to Sell Dirty Gold,” see: <http://www.care2.com>

16 *Contesting Women’s Rights Within the Political Economy of Mining in India*, Dhaatri Resource Centre for Women and Children, Secunderabad, Andhra Pradesh, India, 2010, pp. 58-59.

Companies that respect the principles of sustainable development in one country often commit human rights violations in another. It is therefore important to publicize negative practices in the media of developed countries. Only western public opinion can have a real impact on these adverse practices. Corporations operating in poor countries in Africa usually do not count with the local communities. The central and local authorities do not enjoy high credibility and are often corrupt. Tribal leaders and other persons endowed with the authority of the community can be important in encouraging people to resettlement.

It is important to engage as many partners as possible in the stage of negotiations and the creation of resettlement programs. Negotiation and signing of a Public Infrastructure Agreement, ensuring access to infrastructure and social services, should be an indispensable element of the resettlement program, ensuring access to infrastructure and social services. Public Infrastructure Agreements should be very detailed in nature. One valuable example of appropriate resettlement practices is the displacement associated with the formation of a diamond mine in Murowa, located in South Central Zimbabwe. Mechanisms of social support provided to those resettled should be long-term in nature and should not end within a year or two after resettlement.

### **3. Case studies:**

#### **3.1 Asia and Pacific:**

Among the countries of the region with a significant scale of MIDR, five should be mentioned: India, China, Indonesia, Papua New Guinea, and the Philippines. The Grasberg (Freeport) gold mine in Indonesia caused the displacement of more than 15,000 people. According to estimations, the development of coal mining in India displaced more than 2-2,5 million people between 1950 and 2000 (particularly in Jharkhand). As Walter Fernandes noted, mining-related resettlement is a part of the general context of displacement in this country. In China, coal mining has degraded the quality of land of an estimated 3.2 mln hectares (according to a 2004 estimate) and displaced thousands of people. Mining-induced displacement and resettlement is also highly visible in Papua New Guinea and the Philippines. The expansion of OK Tedi mine in Papua New Guinea as well as environmental damage in surrounding areas has forced 4,000 people to relocate. Foreign mining projects in the Philippines continue to displace indigenous people and harm the environment under

President Aquino's term. There is also the danger of massive mining-induced resettlement in Bangladesh. According to some sources, the open-pit coal mine in Phulbari (Bangladesh) could displace hundreds of thousands of indigenous peoples and cause serious violations of human rights. The situation of the resettled is much worse than in Europe and even some African states. Much attention is paid to the loss of land by tribal people, marginalization, the situation of women and children, malnutrition, and poor health care.

### *India*

We ought not to reduce the development-induced displacement in India to the consequences of the construction of dams and irrigation projects, initiated during the colonial period and continued by Nehru.<sup>17</sup> Mining-induced displacement is currently one of the major risks for stable and sustainable development here. It is estimated that the development of mining displaced more than 2,5 million people between 1950 and 1990. The main problem in India seems to be antagonism between local administrations and tribal peoples regarding land ownership. Land inhabited by many generations is the most significant area of economic, social, and cultural reference. The fusion of human and land is highly visible in the case of indigenous and tribal people who have limited adaptive mechanisms to the new reality. As Theodore E. Downing (et al.) noted:

Mining can empower indigenous peoples, but previous encounters have stripped them of their sovereignty, their traditional wealth, and posed multiple impoverishment risks. The public has indicted the industry for tragic and unnecessary forced relocations, violations of human rights, under-compensation for damages, and lack of benefit sharing. Sustainable mining is not possible if indigenous cultures—that are the prototypes of persistent peoples on this planet—are rendered unsustainable” [...] One of the primary causes of indigenous resistance to mining is the potential loss of sovereignty. Mining frequently disrupts indigenous lifeways and institutions, undercutting their capacity to sustain themselves as a community. Indigenous peoples throughout the world pursue their sovereign rights as coequal members of the community of nations.<sup>18</sup>

Among the most important determinants of MIDR in India, we can mention: coal, copper, bauxite, and uranium mining in Orissa, Jharkhand, West Bengal, and Andhra Pradesh.<sup>19</sup> According to Prajna Paramita Mishra and M. Gopinath Reddy, between 1981 and 1986 major Indian coal companies

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17 Nehru called large dams ‘temples of modern India’ in the sense that he was affirming a commitment to modernisation and socialism in post-Independence India. On the broad context of development-induced displacement in India see: S. Somayaji, S. Talwar (eds.), *Development-induced Displacement, Rehabilitation and Resettlement in India: Current issues and challenges*, Routledge, New York, 2011.

18 T.E. Downing, J. Moles, I. McIntosh and C. Garcia-Downing, *Indigenous Peoples and Mining Encounters: Strategies and Tactics*, International Institute for Environment and Development-World Business Council for Sustainable Development, 2002, p. 3.

19 M. Aareparampil, “Displacement Due to Mining in Jharkhand”, *Economic and Political Weekly*, vol. 31, no. 24, pp. 1524-1528.

have displaced more than 32,700 families (the estimates of displaced persons in Singrauli I-II alone is about 49,000). As Areeparampil noted, the development of mining in Jharkhand was associated with large-scale deforestation and environmental devastation. The development of aluminum mining in the region of Andhra Pradesh is another well-known case of MIDR.<sup>20</sup> The development of the NALCO Refinery Plant in Damanjodi has led to the displacement of fifteen settlements with about 597 families. Literature highlights the problems of the most vulnerable groups—women and children displaced by mining. Potential risks affecting displaced persons are similar to those of other categories of DIDR. Among them we can mention: unemployment, homelessness (and housing problems), social marginalization, alienation, health and social security risks, social destruction, violations of fundamental human rights, lack of access to safe drinking water, and lack of access to education.

THE SCALE OF MINING-INDUCED DISPLACEMENT AND RESETTLEMENT IN INDIA  
ACCORDING TO ‘MODERATE’ ESTIMATIONS:

Region	Years	Total number of displaced	Source
Andhra Pradesh	1980-1995	100,54	Fernandes et. al (2001)
Assam	1980-2000	41,2	Fernandes and Bharali
Goa	1980-1990	4740	Fernandes and Naik (2001)
Gujarat	1980-2000	4128	Lobo and Kumar (2007)
Jharkhand	1980-1995	402282	Ekka and Asif (2000)
Orissa	1960-1995	300000	Fernandes and Asif (1997)
Kerala	1990-1999	78	Muricken et al. (2003)
West Bengal	1960-2000	418061	Fernandes et al. (2006)
Total		1571630	

Source: Fernandes, Walter (2006). “Mines, Mining and Displacement in India” [in] Singh, Gurdeep, Laurence, David and Kauntala Lahiri-Dutt (eds.). (2006). *Managing the Social and Environmental Consequences of Coal Mining in India*, The Indian School of Mines University, Dhanbad, pp. 333-344.

### Indonesia

The Grasberg Mine, situated in the Papua province of Indonesia near Puncak Jaya, is the largest gold mine and one of the largest copper mines in the world.<sup>21</sup> The development of the Grasberg

20 P. Paramita Mishra, M. Gopinath Reddy, “Mining-induced displacement Case of aluminium refinery in Andhra Pradesh”. In S. Somayaji and S. Talwar (eds.), *Development-induced Displacement, Rehabilitation and Resettlement in India. Current issues and challenges*, Routledge, 2011.

21 Three large open-pit mines are located in the Island of Papua: Grasberg (Freeport) Mine (Indonesia), Tedi Mine (Papua New Guinea) and Porgera Mine (Papua New Guinea).



copper and gold mine (Freeport mine) has caused the displacement of more than 15,000 people, mostly indigenous. According to Roberts (1996), “Freeport has not paid any mining royalties (or any other compensation) to the roughly 4,000 Amungme indigenous people displaced by the growing mine’s concession area of 9,266 square miles since strip mining began there in 1972. Many of the displaced people have moved to the lowlands, where malaria and other diseases have killed several hundred of them.”<sup>22</sup> The risk of displacement of the population also affects the region of East Kalimantan in Indonesia.

### *China*

There is not much literature on mining-induced displacement in China. Available publications, however, draw attention to the dangers of resettlement associated with the exploration of new coal-rich areas in China, such as Xinjiang province. Various Uighur communities living in this area are particularly vulnerable to this problem.<sup>23</sup>

### *Bangladesh*

Until recently, mining-induced displacement was not a well-known social problem in Bangladesh. However, the planned construction of an open-pit coal mine in the Phulbari area of Northwest Bangladesh could displace or impoverish hundreds of thousands of people and jeopardize their basic needs. The project involves the development of an open-pit coal mine in Northwestern Bangladesh along with the construction of a 500-MW power plant. The case of the Phulbari mine drew the attention of the world media in February 2012. A group of independent UN experts noted that the opening of such a mine would immediately displace 50,000-130,000 people and potentially affect 220,000. The coal mine’s development could destroy 5,900-12,000 hectares of agricultural land. The project would force entire villages (such as Santal, Munda, Mahili, and Pahan, inhabited by indigenous people) to resettle. Project-induced environmental destruction (e.g. water toxification and deterioration in the quality of agricultural crops) could also end up forcing large-scale migration. According to International Accountability Project, the expansion of mining in Phulbari may lead to various environmental consequences:

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22 B.E. Johansen, “Irian Jaya/Papua New Guinea”. In *Indigenous Peoples and Environmental Issues: An Encyclopedia*, see: [http://www.ratical.org/ratville/IPEIE/IJ\\_PNG.html](http://www.ratical.org/ratville/IPEIE/IJ_PNG.html).

23 See: A.M. Dwyer, *The Xinjiang Conflict: Uyghur Identity, Language, Policy and Political Discourse*, Policy Studies Discourse Working Paper no. 15, East-West Center, Washington, 2005; “Dependency and Complacency in The Energy Sector: Implications For Human Security”: <http://www.rsis.edu.sg/nts/HTML-Newsletter/alert/NTS-alert-oct-1001.html>

- Risk of impoverishment of many thousands of people;
- Outbursts of conflict in the project area;
- Endangered food security in Bangladesh.<sup>24</sup>

### *Philippines*

Mining in the Philippines is the cause of massive displacement of indigenous peoples from their ancestral lands. As Brawner Baguilat pointed out, the expansion of mining here leads to many negative consequences for indigenous populations:

- Loss of ownership, management, and control of land and resources (the material base of the peoples' identity, culture, and survival), and denial of the peoples' resource-management systems;
- Massive loss of livelihood and destruction of local economies causing numerous threats to food, health and water security;
- Dislocation of settlements and villages and weakening of socio-cultural systems;
- Destruction of bio-diversity, pollution and degradation of the environment;
- Loss of traditional knowledge and systems of resource management.<sup>25</sup>

As in other regions of the world, mining especially causes problems for indigenous people. Among the communities most threatened by forced displacement, we can mention B'laan, Kasibu, Nueva, Vizcaya, and Igorot.

### *Papua New Guinea*

The problem in Papua New Guinea is the expansion of the two largest open-pit mines in the country: OK Tedi Mine and Porgera Mine. Particular attention was paid to human rights violations in the first project:

- Tedi Mine. More than 30,000 people have been displaced by pollution associated with the development of OK Tedi Gold Mine. According to some sources (Higgins, 1999) environmental damages have displaced 4,000 people;

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24 Phulbari Coal Project: *An Assessment of the Draft Resettlement Plan Prepared by Global Coal Management/Asia Energy Corporation*, Final Draft, International Accountability Project-Bank Information Center, San Francisco-Washington DC, August, 2008.

25 B. Baguilat, "Philippines: Mining And Its Impacts To Indigenous Communities", [http://indigenousspeoplesissues.com/index.php?option=com\\_content&view=article&id=11988:philippines-mining-and-its-impacts-to-indigenous-communities&catid=32&Itemid=65](http://indigenousspeoplesissues.com/index.php?option=com_content&view=article&id=11988:philippines-mining-and-its-impacts-to-indigenous-communities&catid=32&Itemid=65).

- Porgera Mine. During the development of the Porgera gold and silver mining operation, many people were relocated. Resettlement principles were identified in the Porgera Relocation Agreement (September 1988), the Tolukuma Compensation Agreement (November 1993), and the Lihir Integrated Benefits Package (April 1995).<sup>26</sup>

### 3.2 Africa

Nowadays, open-pit mining is a significant environmental and social problem in Africa. The mining of coal, copper, iron, gold, bauxites, and diamonds is a common cause of highly visible environmental degradation and development-induced displacement and resettlement. The district of Tarkwa located in Ghana, characterized by the presence of half of country's large mines, indicates the enormous environmental and social impacts of 'gold fever.' Mining in the Tarkwa region displaced about 30,000 people between 1990 and 1998, destroyed forest land and farms, and contaminated rivers. Among other countries with a particularly high scale of MIDR we can find: Mali, Namibia, Botswana, RSA, and Zimbabwe. It is also worth emphasizing the environmental devastation and concomitant mass displacement caused by oil extraction in the Niger Delta (known as the tragedy of the Ogoni people). The best-known mining projects implemented in recent years in Africa are: the Bulyanhulu gold mine in Tanzania, the Konkola copper mine project in Zambia, the development of gold mining in the Tarkwa region in Ghana, the Sadiola open-pit gold mine in Zimbabwe, the Dikulushi copper and silver mine in the Democratic Republic of Congo, and the Murowa diamond mine in Zimbabwe. According to the official report of the Southern African Development Community, "mining-induced displacement [...] was one of the most underreported causes of displacement in Africa, and one that was likely to increase, as mineral extraction remained a key economic driver in the whole region."<sup>27</sup>

#### *Ghana*

More than 30,000 people were displaced between 1990 and 1998 in the Tarkwa district of Ghana by gold mining operations. At least several hundred people each year are resettled in the region as a result of mining development.<sup>28</sup> Mining has destroyed 14 communities between 1990 and 1998. Ac-

<sup>26</sup> "Resettlement and Mining in Papua New Guinea" (Chapter 7), see: <http://www.adb.org/documents/conference/resettlement/chap7.pdf>.

<sup>27</sup> See: J. Van Criel, "Africa: Conflicts and mining-induced displacement", *The Broken Rifle*, vol. 77, 2001.

<sup>28</sup> T. Akabazaa, Thomas, Darimani, Abdulai. (2001). *Impact of Mining Sector Investment in Ghana. A Study of the*

cording to Akabazaa, mass displacement has led to the large-scale migration of young people to urban centres (mostly Tarkwa). The second planned mining project in Ghana (the Akyem project) is likely to destroy surrounding habitat and move hundreds of people from their initial places of residence. One of the most controversial projects in Ghana is the Ahafo gold mine. Since its commencement in 2006, the mine has been faced with allegations of human rights abuses committed by the security forces protecting the mine, along with the displacement of 10,000 people, inadequate compensation, and environmental disruption (cyanide spill in October 2009).

## *Mali*

Displacement in Mali is the consequence of gold-mining development in three areas: Sadiola, Syama, and Morila:

- In the Sadiola region, 46 villages lost their space due to MIDR. Sadiola mine, which will operate until approximately 2011, is the largest gold extraction investment in Mali. Experts state that only in the area of three villages (Sadiola, Farabakouta, and Niamboulama) has the development of mining led to the displacement of more than 1,000 people;
- In the Forou region (near the Syama gold mines), 121 communities have lost their land because of mining.<sup>29</sup>

According to Eyolf Jul-Larsen (et al.), the major social consequences of industrial gold mining in Ghana are: 1. the expropriation of land and displacement of villages; 2. a reduction in agricultural and pastoral activities; 3. environmental hazards; 4. housing bottlenecks; 5. social changes, unemployment, and inflation.<sup>30</sup> Lack of comprehensive statistical data makes it impossible to determine the scale of MIDR in Mali. According to Sonnenberg and Münster (2001): a) 2135 people from 85 households were resettled in Sadiola Hill (an open-pit gold mine opened in 1996 in Kayes Region of Mali; and b) 165 people from 8 households were resettled in Yatela (the expansion of the Yatela open-pit gold mine, opened in 2001, situated 25 km north of Sadiola). Beginning in mid 1996, AngloGold Ashanti worked to resettle the villages near the Sadiola mining area: Sadiola, Farabakouta,

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*Tarkwa Mining Region, A Draft Report Prepared for SAPRI.*

**29** *Mali Foreign Policy and Government Guide*, (vol. 1), International Business Publications, Washington 2011.

30 E. Jul-Larsen, B. Kassibo, S. Lange, I. Samset, *Socio-Economic Effects of Gold Mining in Mali. A Study of Sadiola and Morila Mining Operations*, Chr. Michelsen Institute, Bergen, Report, no 4, 2006, pp. 27.

and the Niamboulama. Between April 1999 and October 2000, 1200 inhabitants of these villages were resettled.<sup>31</sup>

### *Mozambique*

The development of Vale's Moatize coal mine in Mozambique has displaced 700 families. They were resettled to the Cateme area, located 60 kilometers from the mine zone. Problems they face include lack of access to water, electricity, and agricultural land.<sup>32</sup>

### *South Africa*

It is not possible to provide accurate statistics for the number of people displaced as a result of mining in South Africa. W. Courtland Robinson (2003) noted that mining in South Africa "displaced 37,000 people over five years."<sup>33</sup> Sonnenberg and Münster claim that mining operations resettled 35,000 people in southern Africa during the nineties.<sup>34</sup> However, this figure refers only to persons covered by resettlement plans. In fact, much of the resettlement was unrecorded and was not realized on the basis of resettlement plans.<sup>35</sup> The most famous example of MIDR in South Africa is that of the resettlements undertaken by Anglo Platinum near its Mogalakwena mine. Almost 10,000 people (957 households) from Ga-Pila and Motlhotlo were resettled.<sup>36</sup> Following many years of negotiations, 98% of Ga-Pila residents accepted the offer to move to the newly-built village. The program of relocation was voluntary and was realized with the strong support of local authorities and tribal leadership.

### *Zimbabwe*

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31 496 inhabitants of Sadiola were resettled July 8, 1999. 550 inhabitants of Farabakouta were resettled 22 April 1999. 105 residents of Niamboulama were resettled October 6, 2000.

32 "Resettled Mozambique families protest against Brazil's Vale", <http://www.mineweb.com/mineweb/view/mineweb/en/page504?oid=142931&sn=Detail>.

33 W.C. Robinson, "Risks and Rights: The Causes, Consequences, and Challenges of Development-Induced Displacement", SAIS-Brooking Institution, May 2003, p. 20.

34 D. Sonnenberg, F. Münster, *Mining Minerals Sustainable Development Southern Africa. Research Topic 3: Mining and Society. Involuntary Resettlement*, African Institute of Corporate Citizenship, Sandton, 2001, pp. 42.

35 M. Hoadley, D. Limpitlaw, A. Weaver, "Mining, Minerals and Sustainable Development in southern Africa", The Report of the Regional MMSD Process, University of the Witwatersrand, 2002.

36 According to Sonnenberg and Münster (2001) Anglo Platinum investments in Ga-Pila displaced 4500 people (770 households) before 2001.

A particularly infamous example of MIDR in Zimbabwe is connected with the recent development of the Marange Diamond Fields. The Chiadzwa area, located in the eastern part of the country is considered the world's biggest diamond find in more than a century. In January 2009, the government announced its plans to resettle 4,700 Chiadzwa villagers to the 12,000 ha Arda Transau Farm, on the Odzi River. Resettlement plans provoked protests amongst Chiadzwa villagers.<sup>37</sup> Over 500 Manicaland families from Chiadzwa to date have been relocated to Arda Transau Relocation Village, 24 km from Mutare. The villagers moved into three-bedroom houses, built by a private contractor, which cost \$55,000 per unit.<sup>38</sup> Mbaba Diamonds, the company responsible for the exploration, promised to build schools and clinics and to provide residents with basic social services. This might be just the beginning of resettlement issues in Zimbabwe, as more and more diamond deposits are discovered in this country.<sup>39</sup> The development of mining can bring about a host of negative consequences for the rural population of Zimbabwe.

Rio Tinto, a mining company operating in many countries, is a good example of a corporation applying the principles of sustainable development and ethical responsibility. Rio Tinto's Murowa diamond mine in Zimbabwe is an example of ethical and appropriate resettlement. The Murowa is a diamond mine opened in 2004, located in southern central Zimbabwe, 350 km south-west of Harare. During the discovery phase, it was ascertained that the development of the project would require the relocation of 100 families. In June 2001, the initial resettlement mapping plan was completed, according to which 926 people from 142 families would be resettled. In May 2002, resettlement agreements were signed among the company, local authorities, and the resettled community. The preparation of mine facilities was completed in late 2004. These activities included the relocation of 926 people living in the immediate vicinity of the mine to 6 farms purchased by the government resettlement program. In 2005, the company relocated 142 families to Shahse, about 150 kilometres east of Murowa. A public infrastructure agreement was signed between the company and local authorities on access to social services and the construction of school and health facilities. A separate public agreement was associated with the relocation of 265 graves from the old settlement to the specially prepared new area. Additionally, after the initial resettlement plan, 224 families were relocated to Sashe.

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37 O. Katsaura, "Violence and the political economy of informal diamond mining in Chiadzwa, Zimbabwe", *Journal of Sustainable Development in Africa*, vol. 12, no. 6, 2010, pp. 340-353.

38 Nqobile Bhebhe "Chiadzwa villagers relocated", <http://www.newsday.co.zw/article/2011-12-14-chiadzwa-villagers-relocated/>

39 For example, recent discoveries in the Bikita region.

According to Rio Tinto, the company then built new roads, a health centre, and a primary school, and implemented community development projects including micro-irrigation and agricultural and business training programmes, allowing the people to adapt to their new situation and the development of a local economy.<sup>40</sup> As Simon Nish and Sara Bice pointed out, each family received access to approximately 8 ha of arable land for their own purposes and access to 32 ha of common arable land.<sup>41</sup> The case of the Murowa diamond mines is a good example of broad public participation in resettlement schemes, negotiations significantly in advance of resettlement, and detailed public infrastructure agreements.

### *Botswana*

Resettlement issues in Botswana are particularly connected with the rights of aboriginal people, cultural heritage, and the conservation of nature. The most well-known example of displacement is the forced relocation of two aboriginal San communities (the Gana and Gwi tribes) from the Central Kalahari Game Reserve. This action led to the violation of several human rights: indigenous people rights, water rights, and the right to land. The San people's case, among others, was undertaken by the Human Rights Commission of the United Nations in Geneva. Since the mid-nineties, there is also the subject of court battles in Botswana. The reasons for the relocation of aboriginal peoples are for the conservation of nature and for mining. According to Survival International, "In three big clearances, in 1997, 2002 and 2005, virtually all the Bushmen were forced out. Their homes were dismantled, their school and health posts were closed, their water supply was destroyed and the people were threatened and trucked away."<sup>42</sup>

- In 1997 the government of Botswana decided to resettle hundreds of San people living in the Central Kalahari Game Reserve (CKGR). According to official statements, the aim of the operation was "proposed conservation and development" and to raise the functioning standards of the rest of the San living in the reserve.
- In July 2004, the authorities decided to resettle the next several hundred residents of the reserve because deposits of diamonds were discovered. This decision led to protests by 250 San people residing there. The world-renowned corporation De Beers expressed interest in the exploitation of diamond deposits in the reserve.

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40 S. Nish, S. Bice, "Community-based agreement making with land-connected peoples" [In] Vanclay F., Esteves A.M. (eds.), *New Directions in Social Impact Assessment. Conceptual and Methodological Advances*, Edward Elgar Publishing Limited, 2012, p. 71.

41 Ibidem.

42 Survival for Tribal People "The Bushmen": <http://www.survivalinternational.org/tribes/bushmen>

- Another attempt to remove San people from the Central Kalahari Game Reserve was in 2008. In 2009, a Botswana government official has admitted that the Kalahari Bushmen were evicted from their land to make way for diamond mining, and that authorities cut off the water supply to force Bushmen out of the Central Kalahari Game Reserve.<sup>43</sup> In 2009, about 1,000 San people were seeking to return to the Kalahari Reserve.

The Central Kalahari Game Reserve is a disgraceful example of a place where mining and tourism development were more important than the rights of indigenous peoples.<sup>44</sup>

### *Democratic Republic of Congo*

The Democratic Republic of Congo has Africa's largest mineral resources, but the vast majority of its people lives in poverty. The fight to control mining has been a major factor in the violent conflict which has raged in eastern Democratic Republic of Congo for at least 16 years. We see the problem of so-called blood diamonds, where the profits from the diamond trade are used to fund conflicts. Rebel forces control some of the diamond fields, extracting diamonds, then selling them and spending the earned money to continue the conflict.

In 2011, Randgold Resources announced plans to start mining Africa's largest undeveloped gold deposit in eastern DR Congo. The beginning of gold mining in Kibali will require the re-location of 15,000 people. The new Kibali gold project is located close to the Ugandan border in a corner of DR Congo. According to Randgold representatives, all people will be moved to a new village constructed by the company. In June 2011 the first of 14 affected villages started moving to the Kokiza resettlement village, which will include approximately 3700 newly built homes. Only two of 12 villages have already been resettled to date (February 2012).

### *Kenya*

The development of titanium mining in Kenya's Kwale region led to the displacement of at least several thousand people. As per Sonnenberg and Münster in 2001, 3300-10,000 people (450 households) were resettled as a consequence of mining conducted by Tiomin Resources. In July 2004, the Kenyan government and Toronto-based Tiomin Resources signed a deal for a 21-year

<sup>43</sup> Botswana admits bushmen were evicted for diamond mine", *Ecologists*, 19<sup>th</sup> August 2009.

[http://www.theecologist.org/News/news\\_round\\_up/305377/botswana\\_admits\\_bushmen\\_were\\_evicted\\_for\\_diamond\\_mine.html](http://www.theecologist.org/News/news_round_up/305377/botswana_admits_bushmen_were_evicted_for_diamond_mine.html)

<sup>44</sup> D. Chatty, M. Colchester (eds.), *Conservation and Mobile Indigenous Peoples. Displacement, Forced Settlement and Sustainable Development*, Berghahn Books, 2002, p. 189; M. Dowie, *Conservation Refugees. The Hundred-Year Conflict Between Global Conservation and Native People*, Massachusetts Institute of Technology, 2009, pp. 42.



mine for titanium in Kwale. It was estimated that, by 2007, the mining project would displace 5,000-10,000 in the Kwale district. Many of them are indigenous people.

### *Zambia*

Konkola Copper Mines is the biggest copper produced in Zambia. According to Sonnenberg and Munster (2001), 750 people from 143 households had been resettled at that time by mining operations. The affected people (67 households) were moved to Ming'omba village on 14 January, 2002. In February 2002, 74 households from Kawama were resettled. The resettlement plans were implemented in accordance with IFC Guidelines. Residents were given access to social services: schools, a health centre, water supply, sanitation, etc.<sup>45</sup>

### *Tanzania*

The Bulyanhulu Gold Mine, opened in 2001, forced the resettlement of 511 people from 56 households (Sonnenberg and Münster (2001). In 1996, the mine was the scene of one the most infamous cases of mine-related violence. Over 50 artisanal miners were buried alive by bulldozers used to construct new mine. About a thousand people were displaced due to development of the Buzwagi Gold Mine in the Kahama District. More than 30,000 artisan miners were resettled as a consequence of the construction of Geita and Nzega, two large-scale gold mines in Tanzania.<sup>46</sup>

### *Mozambique*

Resettlements in Mozambique are associated with the mining of titanium in its Chibuto District (Corridor Sands Titanium) and Moma District (Moma Sands Titanium). According to Sonnenberg and Münster (2001), 4200 people (840 households) were resettled in connection with the Corridor Sand Heavy Mineral Sand Project.

Resettlement implemented by the Brazilian mining company Vale in the Moatize district, in the western province of Tete aroused the protests of affected people. Between November 2009 and

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45 See more: Assessment Report Complaint filed to the CAO regarding the Zambia Konkola Copper Mine (KCM) Project, Office of the Compliance Advisor/Ombudsman, Compliance Advisor Ombudsman, November 2003, <http://www.cao-ombudsman.org/cases/document-links/documents/Zambia-KCMFinalReport11-17-03.pdf>

46 M. Curtius, T. Lissu, A Golden Opportunity? How Tanzania is Failing To Benefit From Gold Mining, October 2008.

April 2010, Vale resettled hundreds of people from the area of mining concession in Chipanga. About 717 households regarded as 'rural' were resettled in the locality of Cateme, about 35 kilometres from Moatize town. 288 households, regarded by mining company as 'semi-urban', were resettled in the neighbourhood within the town. 308 households refused to change their place of residence, and demanded monetary compensation instead. In Cateme 750 new houses were built and people have access to social services, an elementary school, a police station, a health center, and water and electrical infrastructures. Despite this fact, displaced people protested against a number of problems encountered.<sup>47</sup> According to some sources, 400 of the 750 houses had been poorly built and access to electricity, water, and agricultural land. On January 10, 2012, more than 400 families blocked the road and railway line in Tete to protest against poor living conditions and the failure of the resettlement programme. Vale has now promised to resolve all the problems at the Cateme resettlement area within half a year.<sup>48</sup>

### *Republic of Congo*

The expansion of the Zanaga iron ore project located in the Lekoumou district could lead to resettlement of ten villages, according to some sources.

## **3.3 South and Central America**

Among the Southern and Central American countries experiencing this problem on a greater or lesser scale, we can mention: Peru, Venezuela, Guyana, Argentina, Suriname, Chile, Honduras, and Venezuela. Thousands of people in Peru could be displaced because of the mining industry in this country. The most significant example of the problem is the situation of the inhabitants of Morococha town (a Chinese company plans to mine copper there) and the city of Cerro de Pasco (with the possible relocation of more than 11,000 people due to negative effects of mining). Despite some promises, the open-pit mining in this country could lead to huge environmental and social consequences. Just as in Asia, the situation of American indigenous people is becoming a relevant

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47 More on situation in Cateme: C. Kabemba, C. Nhamale, *Coal versus Communities: Exposing poor practices by Vale and Rio Tinto in Mozambique*, Southern Africa Resource Watch, Policy Paper no. 2, 2011; "Protests against Vale coal mine relocations", <http://www.labournet.de/internationales/mz/hanlon193.pdf>

48 In January 2012 Barclays and Vale mining company earned the annual Public Eye awards for the worst corporate misconduct.

problem. In an interesting article, David Szablowski gives us some positive examples of the cooperation of mining companies and local authorities on the issue of social and environmental rights of affected populations.<sup>49</sup>

## *Peru*

The most-cited example of mining-induced displacement in Peru is the relocation of Morococha. Over 1,300 families will have to be resettled to allow Chinalco Company to begin mining for copper and molybdenum in 2012.<sup>50</sup> The company will spend 40 million dollars to build 1,200 housing units in the New Morococha. In 1999, the Peruvian government and the Canadian mining company Manhattan Sechura S.A. signed an agreement granting the company the rights to mining expansion over 88,000 hectares of land around the town of Tambogrande (Piura Department) in Northern Peru. The opening up of a new open-pit mine will require approximately 25,000 people to be resettled, change the course of a river, and cause the destruction of the Prosopis (algarrobo) forests existing in this area.<sup>51</sup> Anthony Oliver-Smith draws attention to the case of Compania Minera Antamina, a mining project located in North-Central Andes. People displaced in its aftermath were deprived of access to the contents of the World Bank guidelines on resettlement.<sup>52</sup>

## *Chile*

Displacements in Chile have resulted from copper-mining development in this country. The most notable case is the resettlement of over 3,000 families from the mining town of Chuquicamata to the nearby city of Calama situated in Northern Chile. This operation and the building of 2,400 new homes in the Southern suburbs of Calama will cost the Codelco company more than 220 million dollars.<sup>53</sup>

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49 D. Szablowski, "Mining, Displacement and the World Bank: A Case Analysis of Compania Minera Antamina's Operations in Peru", *Journal of Business Ethics*, Vol. 39, No. 3, 2002, pp. 247-273; see also: V. Parker, *Rio Tinto and Madagascar – is it equitable?*, London Metropolitan University, MBA Diploma in Business, 2008, p. 13; available at: <http://www.andrewelestrust.org/Reports/KitFer%20Minerals%20Madagascar.pdf>.

50 M. Salazar, "A Mining Town's Woes", <http://ipsnews.net/news.asp?idnews=45319>.

51 D. Szablowski, "Mining, Displacement and the World Bank: A Case Analysis of Compania Minera Antamina's Operations in Peru", *Journal of Business Ethics*, vol. 39, no. 3, p. 247-273.

52 Anthony Oliver-Smith, *Defying Displacement. Grassroots Resistance and the Critique of Development*, University Of Texas Press, 2010, pp. 88.

53 Arne Kristoffer Bayer and Reik Michael Winkel, "Come to where the copper is – Modern ore mining in Chile", see: <http://www.imr.rwth-aachen.de/downloads/200411surfaceminingchileexkursion.pdf>; see: "Codelco's Chuquicamata resettlement to cost US\$ 200mn"; [http://www.bnamericas.com/news/mining/Codelco's\\_Chiquicamata\\_resettlement\\_to\\_cost\\_US\\*200mn](http://www.bnamericas.com/news/mining/Codelco's_Chiquicamata_resettlement_to_cost_US*200mn).

## *Bolivia*

The most famous example of involuntary resettlement in Bolivia concerns the Ayllu Jesús de Machaca indigenous community in the La Paz Department (about 300 inhabitants in 2005). In 2005, Coeur d'Alene Mines Corporation resettled several families in this village in order to construct a tailings facility for its silver mine. Resettlement took place without the provisions of World Bank guidelines for the involuntary resettlement of indigenous people. The problem for indigenous peoples was particularly the privatization of pastoral lands they had previously used. In July 2008, affected people took to protests, demanding an independent evaluation of the environmental consequences of the project, protecting the rights of indigenous peoples to bigger participation in local development.

## *Guatemala*

The Marlin gold mine in San Marcos, Guatemala, (owned by Goldcorp Inc. of Canada) has generated much controversy among Mayan indigenous communities. Open-pit mining has caused many problems including deforestation, water depletion, forced displacement, destruction of homes, water and air contamination, loss of access to farming land (through illegal land acquisition), and health problems. Environmental and social consequences of the project were the cause of large protests occurring in the region in 2007. In 2008, the impact of open-pit mining on local communities and the environment were examined by the Latin American Water Tribunal.<sup>54</sup>

### **3.4 North America**

Parallel to other categories of DIDR (i.e. dam-induced displacement), the social consequences of mining are not a serious problem in the United States and Canada. The only significant displacement was the consequence of lignite mining expansion in the U.S. The tradition of individualism, effective courts, and well-established property rights can block resettlements that are socially detrimental. Any attempt to carry out this kind of investment may result in multiple trials ending with huge monetary compensations. The fear over consumers' opinion creates a situation where no American corporation can afford unpopular environmentally inappropriate practices and

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54 J. van de Sandt, *Mining Conflicts and Indigenous Peoples in Guatemala*, Cordaid, September 2009, available at: [http://www.ciel.org/Law\\_Communities/Guatemala/Cordaid%20Guatemala%20brochure%20UK-DEF.pdf](http://www.ciel.org/Law_Communities/Guatemala/Cordaid%20Guatemala%20brochure%20UK-DEF.pdf)

actions. This so-called corporate social responsibility (CSR) is a major breakthrough and a step forward from the pure, anti-social pursuit of money. In Mexico, mining-related displacements are conducted on a very limited scale. The much greater problem there is resettlement caused by dam construction (Miguel Aleman Dam) and exploitation of oil.

### 3.5. Europe

Displacement caused by mining is the only major category of development-induced displacement observed in contemporary Europe. Particularly important are open-pit brown coal mines in Germany, Poland, and recently in Serbia and Kosovo. The best known example of population displacement involved the creation of the Garzweiler open-pit mine (Tagebau Garzweiler—operated by *Rheinisch-Westfälisches Elektrizitätswerk AG*) in the North-Rhine Westphalia.<sup>55</sup> Taking into account the amount of compensation and the effectiveness of legal institutions, resettlements in Europe are not a main social problem or a human rights issue. As elsewhere in the controversy raises the amount of compensation and social losses. Problems of the German and Polish energy sectors may still lead to the development of lignite mines, which will probably raise opposition from environmental organizations and many residents. Controversies of this kind are particularly visible in Germany—a country with a long tradition of ecological movements and strong political influence of the Green Party. Projects related to potential environmental hazards and social problems often encounter criticism from the institutions of the European Union.

#### *Germany*

Germany is currently the world leader in lignite production, which was estimated at about 169,4 million tonnes (52.3 Mtce) in 2010. The beginnings of industrial-scale lignite mining can be dated back to the mid-twenties of the last century. The lignite industry has developed both in the German Democratic Republic and the Federal Republic of Germany. Lignite mining was located in four main regions: 1. the Rhineland mining region (around Cologne, Aachen, and Mönchengladbach); 2. the Lusatian mining region (in South-Eastern Brandenburg and North-Eastern Saxony); 3. the Central German mining region (Southern and Eastern Saxony-Anhalt and Northwest Saxony); and 4. the Helmstedt mining region (Lower Saxony). The increasing scale of mining, caused by industrial development, came with huge social costs and irreversible environmental changes.

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<sup>55</sup> More on displacement caused by Garzweiler II open-pit mine see: C.M. Hall, S.J. Page, *The Geography of Tourism and Recreation. Environment, Place and Space* (Second Edition), Routledge, 2005, p. 293; G. Bhargava, *Environment and Its Global Implications*, Kalpaz Publication, 2002, p. 121.

According to Jeffrey H. Michel, the development of German lignite mining has already led to the destruction of more than 300 communities and the resettlement of about 100,000 people.<sup>56</sup>

According to specialists, more than 25,000 inhabitants of Lusatia (Lausitz) have been forced to change their place of residence as a result of the lignite industry. The Green League (Grüne Liga), an ecological organization established in 1989 and located in Postdam, suggested that the development of Lusatian lignite mining has totally destroyed 81 communities and forced the relocation of over 25,000 people.<sup>57</sup> A particularly vital example of the struggle against resettlement were the protests of the inhabitants of Horno village. In 2005, they were resettled to Neu Horno, a newly built settlement located 10 km away.<sup>58</sup> Another well-known example of such practices was the village of Haidemühl which became the object of mining-induced resettlement of 650 inhabitants that took place between 1999 and 2006. According to other estimates (*Domowina*), since 1924 onwards 123 villages and smaller settlements in Lusatia have been destroyed by the development of open-cast mining during which 22,000 people were resettled.<sup>59</sup> Furthermore, the development of mining in the states of Brandenburg and Saxony could have led to additional subsequent forced displacement. Among the investments planned by 2015 we can mention open-cast mining in Jänschwalde-North (900 inhabitants), Nochten (1500 inhabitants), and Welzow (1000 inhabitants).<sup>60</sup>

According to Bilkenroth and Snyder, mining has contributed to the destruction of 120 communities and the resettlement of 47,000 people in Middle Germany.<sup>61</sup> In Southern Leipzig alone, 66 villages, farm communities, and settlements were destroyed and more than 23,000 people resettled since 1924.<sup>62</sup>

Research conducted by the organization Friends of the Earth (Bund für Umwelt und Naturschutz Deutschland, or BUND) in the Rhineland indicated that more than 56 villages were destroyed by

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56 J. H. Michel, *Status and Impacts of the German Lignite Industry*, the Swedish NGO Secretariat on Acid Rain, Göteborg, 2008, pp. 17; see also: "Resettlement in Lignite Mining" available at: <http://www.externe.info/oldvolumes/vol32c1012.pdf>.

57 R. Schuster, "Lebensrecht für die Rotbauchunke", Grüne Liga, Postdam, June 2004.

58 Lignite Mining in Lausitz: <http://www.johanbergstrom.com/smoke/about.html>; In 2005 also displaced the residents of Haidemühl community.

59 Y. Jennerjahn, "Bald rollen die Bagger in Horno", Evangelische Pressedienst, Berlin, 2003;

60 "Vattenfall's planned CCS demonstration plant is not a sustainable energy solution", <http://www.lausitzer-braunkohle.de/english.php>.

61 K-Dieter Bilkenroth, D.O. Snyder, *Der Mitteldeutsche Braunkohlenbergbau - Geschichte, Gegenwart und Zukunft*, Theißen, 1998, p. 29.

62 "Durch den Bergbau verlorene Orte südlich von Leipzig", see: <http://www.heuersdorf.de/>.

1985 and 30,000 people were displaced (according to other sources, there were ‘only’ 25,000 displaced people)<sup>63</sup>. By 2045, twenty villages (12,000 people) will be pushed elsewhere by the development of brown coal mining.<sup>64</sup> Much controversy has arisen over the prospect of mass resettlement in association with the development of the Garzweiler II open-pit mine, located in North-Rhine Westphalia. It is estimated that the development of Garzweiler II might displace 7,600-12,000 people by 2045. As Mark Cioc noted, “Since 1952, over fifty towns and villages have been moved, and nearly 30,000 humans displaced, to make room for new mines and power plants, including the towns of Bottenbroich, Berrenrath, Mödrath, Grefrath, Habbelrath, Morken-Harff, Königshoven, Lich-Steinstrab and Garzweiler.”<sup>65</sup> The relocation of the inhabitants of Berrenrath in 1952 was another famous example of mining-induced displacement.

The development of lignite mining, ongoing in Germany for several years, has led to major environmental problems. Therefore, current ideas of switching to alternative energy sources, more eco-friendly and much less costly in social terms, is a good sign and a step forward. However, it is still not certain whether the foreseen shutdown of nuclear plants will be accompanied by limiting the development of brown coal open-cast mining. Brandenburg protests against the planned construction of a nuclear power plant in Poland are steeped in controversy, despite its claims of providing an energy source which is much safer, healthier, and less socially detrimental.

### *Poland*

Poland is the world’s leading producer of brown coal (59.5 million tonnes as of 2001—sixth place in the world). For over 60 years, the emergence of open-cast sites has been associated with a displacement of local residents. Even an approximate explication of the problem is impossible due to the absence of accurate statistics. It is, however, a well-known fact that between 1968 and 1984, the expansion of open-cast mining has led to the displacement of 28 large villages. Therefore, we estimate that in the last sixty years the mining of brown coal has resulted in the displacement of at least 30,000 people. Poland’s lignite mining industry is located in four main areas: Konin, Turow-Bogatynia, Belchatow-Szczercow, and Sieniawa Lubuska. Poland has also one of the largest (and so far unexploited) lignite deposits in the world (in its Legnica-Prochowice-Scinawa region). Plans for future exploitation assume the displacement of up to 20,000 people.

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63 “Bund für Umwelt und Naturschutz Deutschland, Landesverband Nordrhein-Westfalen”, see: [www.bund-nrw.de/braunkohle](http://www.bund-nrw.de/braunkohle); see also: <http://www.mining-technology.com/projects/rhineland/>.

64 See: “Waste Land (Otzenrather Sprung)”, [http://www.maschafilm.de/en/waste\\_land.html](http://www.maschafilm.de/en/waste_land.html).

65 M. Cioc, *The Rhine. An Eco-Biography 1815-2000*, University of Washington Press, 2002, p. 101.

Poland's energy problems push political decision-makers to further diversification of energy sources; the planned construction of a nuclear power plant is aimed at balancing the exploitation of brown and hard coal. According to experts, coal reserves in existing deposits may start to run out after 2022. This implies the establishment of new mines in the area of Legnica, which is likely to lead to the relocation of at least several thousand people. According to specialists, the resettlement of 3449 people and the demolishing of 1752 buildings will be necessary for the construction of a new lignite mine in Legnica.<sup>66</sup> Some forecasts contend that the emergence of a new basin will be much more costly in social terms, forcing over 20,000 people to relocate. The possibility of basing the economy upon alternative, renewable energy sources (like green energy) is in fact very limited. Government sources in Poland emphasize the role of brown coal in the energy economy of the country and the need for exploitation of new deposits in anticipation of the drastic 2025 drop projected in productivity in former mining areas.

### *Kosovo*

As Besnik Haziri noticed, lignite is the source of 97 percent of domestic energy production in Kosovo. Extraction of this resource is a key element of national energetic independence.<sup>67</sup> The major villages affected by potential displacement are: Hade, Lajthishte, Palaj, and Sibovc (approximately 5700 people in total).

### *Serbia*

The annual production of lignite in Serbia in 2001 amounted to 35,5 million tonnes. By 2010, the development of open-cast mining in this country had affected 4 villages, inhabited by approximately 1,300 people.<sup>68</sup> The most famous example of mass resettlement was the relocation of Vreoci (3210 inhabitants), caused by the expansion of the Kolubara lignite basin.<sup>69</sup> According to Zekovic and Vujosevic, potential expansion of Kolubara lignite requires the relocation of 1,920 households, with about 5,670 inhabitants, most of them in Vreoci (1,030 households), Zeoke (276 households), Medosevac (122 households), Little Borak (115 households), Radljevo (84

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66 See: [http://gornictwo.wnp.pl/ilu-ludzi-trzeba-przesiedlic-aby-zbudowac-kopalnie-legnica,101323\\_1\\_0\\_0.html](http://gornictwo.wnp.pl/ilu-ludzi-trzeba-przesiedlic-aby-zbudowac-kopalnie-legnica,101323_1_0_0.html).

67 See: B. Haziri, "The Resettlement Process in the Lignite Mining Areas of Kosovo", p. 13.

68 See: B. Haziri, "The Resettlement Process in the Lignite Mining Areas of Kosovo", p. 6, <https://ritdml.rit.edu/bitstream/handle/1850/11809/BHaziriCapsProj02-23-2010.pdf?sequence=1>.

69 J. Petrić, "Residents' View on Resettlement Issue of Vreoci- Sustainability or Phrases", *Spatium*, 2005, p. 12-17.



households), and Sarbane (83 households). The program for resettlement was written in 2008; however, it is not completely compatible with the World Bank directives on voluntary resettlement.<sup>70</sup>

#### **4. Conclusions and Recommendations**

As Theodore E. Downing contends, MIDR is a problem that has been duly and thoroughly penetrated in the last 40 years. Yet this theme still remains marginal from the perspective of human rights. It is extremely seldom that it is undertaken on the agendas of international institutions and agencies like the UN or UNHCR. Let us note, however, the beginnings of broad interest in the subject at the international level. In February 2012, in the forum of the United Nations, much concern was expressed about the huge social and environmental impacts of the establishment of the Phulbari coal mine in Bangladesh.

Mining-induced displacement exists in several dozen countries around the world. Yet only in developing countries does it lead to numerous negative consequences. Thus, the effects of displacements should be given due consideration in order to avoid unemployment, homelessness, the decomposition of local structures, and the atrophy of national heritage. Below, I present a general outline of activities relevant to limiting impoverishment caused by mining. Their realization requires a systemic outlook and the cooperation of many actors: 1. national administration at the local and central level; 2. non-governmental organizations; 3. the business sector; 4. international agencies dealing with human rights and humanitarian issues; and finally 5. local communities. Among the actions aimed at mitigating negative consequences of MIDR the following should be undertaken:

1. Debate about MIDR must be internationalized. Connecting MIDR to human rights, humanitarian issues, environment protection, and sustainable development is a crucial matter. So far there has not been a serious and adequate discussion of this issue on the

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<sup>70</sup> S. Zekovic, M. Vujosevic, "Impact of Risk and Uncertainty on Sustainable Development of Kolubara Lignite Basin", Proceedings of the 4th IASME / WSEAS International Conference on Energy and Environment, 2009; see also: T. Maričić, "Implementation of Strategic Environmental assessment in Serbia-Case of Spatial Plan of Kolubara Lignite Basin".

international forum. Research into development-induced displacement is reduced to the consequences of dam building, and MIDR is debated in the context of only a few countries.

2. The development of mining should generate profits for the widest group of beneficiaries. Much remains to be done to ensure that mining will contribute to the economic advancement of the whole region, for example, by a reduction in energy prices. Social development is another key element of the presented strategy, by which I mean education, new workplaces, and the substantial improvement of social services.
3. Displacement plans ought to be implemented in an exhaustive and proper manner. The business sector must bear adequate costs of their realization. They cannot be done chaotically, but should rather proceed according to the World Bank directives on involuntary resettlement.
4. Every effort should be made to integrate the displacees ('outsiders') with local communities ('insiders') in their new residences. Ethnic and cultural differences are a probable cause of conflict.
5. The social and economic situation of those resettled must be monitored long after the displacement. Mines ought to take responsibility for the fate of displacees, by, for instance, providing them with work.
6. Resettled people should be empowered to negotiate the terms of resettlement with administrative mining bodies. Their position during such discussions is plainly asymmetric and they have no real means enabling them to affect the final outcome. Greater symmetry can be achieved, however, by easier access to low-cost legal assistance and with the engagement of non-governmental organizations. The negotiation of economic principles according to which displacements proceed plays a key role in assuring their future situation. The total advantage of businesses in the resettlement processes may lead to the economic marginalization of displaced people.
7. Displacees should be informed about their rights, granted by the World Bank guidelines on involuntary resettlement.
8. Furthermore, they should be acquainted with potential economic and social risks. Predicting negative environmental phenomena becomes relevant as well. Mines and local authorities might mobilize people to participate in professional education programs in order to limit the risks associated with their situation after displacement.
9. Resource exploitation should be based upon the principles of sustainable development

and be as eco-friendly as possible. Another important issue is the implementation of corporate social responsibility directives in the mining sector.

10. Financial compensation should contribute to the development of local areas. People must have the opportunity for (and be encouraged to) entrepreneurship so as to avoid emigration. Micro credits can play a crucial role too.
11. The business sector and local authorities ought to constantly control whether mining-caused displacement leads to homelessness and unemployment.

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## **6. Summary**

Contemporary economic development leads to a significantly greater scale of resettlement than just a decade ago. Over the last sixty years, the global scale of development-induced displacement and resettlement has grown to an estimated 250-420 million people. At least ten million people each year are forced to leave their homes following big development projects (dams, irrigation projects, highways, urbanization, mining, national parks, etc.). Anthony Oliver Smith goes even further in estimating that current scale of DIDR amounts to 15 million people per year. Development-induced displaced people greatly outnumber the other two major categories of displaced persons: conflict-induced displaced people and environmentally-induced displaced people. There are at least six main causes of DIDR: 1. hydrological projects (e.g. the construction of dams, irrigation projects, the creation of artificial reservoirs); 2. the construction of communication networks (e.g. highways, roads, railways); 3. urbanization; 4. agricultural expansion (including the creation of large monoculture plantations); 5. the creation of national parks, biosphere reserves, and other protected wildlife areas; and 6. mining (especially the creation of open-pit or open-cast mining).

Mining is currently not a statistically significant category of development-induced displacement. Nevertheless, the social costs of exploitation are great, and that is why the topic is worthy of a wider and more profound scientific analysis. The first displacement caused by mining dates back to the late nineteenth century. As pointed out by Walter Fernandes, in the Indian region of Jarkhand alone, mining has led to the displacement of 2.55 million people. Contrary to the opinions of some specialists, the problem of mining-induced displacement and resettlement is a global problem, occurring on all continents. Countries with particularly large-scale MIDR include: India, China, many African countries (e.g. Ghana, Botswana), and even Indonesia and Papua New Guinea. The problem of forced displacement is also a consequence of open-pit coal mining in European countries like Germany and Poland. Although mining-induced displacement is a global

phenomenon, problems experienced by the displacees in many parts of the world differ greatly. The largest portion of the displacement is caused by open-pit mining (associated with the extraction of lignite, copper, and diamonds).

Social problems affecting displaced people are divergent depending on where they live. Resettlement caused by mining is a part of the broader context of development-induced displacement and resettlement. The poor situation of displacees may be the result of several factors such as inadequate compensation, chaotic plans of resettlement, and lack of systemic social support in the new place of residence. Wealthy western countries, with a democratic form of government and significant citizen participation in government, are characterized by much higher standards of resettlement than Asian or African countries.

Mining-induced displacement violates many human rights, especially those of an economic and social nature. Among the common problems we can find are: 1. inadequate compensation for lost property; 2. lack of participation of local communities in the division of profits from the exploitation of resources; 3. infringement of social and cultural rights (especially indigenous and tribal people); 4. cultural devastation caused by resettlement; 5. violation of housing rights; 6. violation of other rights such as economic, social, and cultural ones (e.g. lack of access to education in the new place of residence, lack of access to social facilities). Simultaneously, the problems of displaced people are linked to the typical consequences of development-induced displacement in other categories of problems (such as the right of local communities to share in the profits of the exploited resources). The social consequences of MIDR are an extremely important and highly underrated human rights issue.

Forced population resettlement is, in fact, not the only negative consequence of mining. An equally significant group of people are indirectly affected by its consequences. Among such negative effects are: mining damages; loss of quality of agricultural production; problems with water; health risks; and land pollution. Many of these problems indirectly force people to migrate.

## Annexes

### Annex A.

**Selected municipalities displaced as a result of mining development:**

Country	City
Ghana	Atuabo
	Abekoase
	Akontanse
	Bodwire Agya
	Damang
	Huniso
	Kojokrom
	Kyekyewere
	Mandekrom
	Nkwantakrom
	Sofo Mensakrom
	Tarkwa
	Teberebie
India	Baranj Mokasa
	Borua Tola
	Borwa Tola
	Budna Tola
	Chak Branj
	Chichordi
	Damanjodi
	Duru Muslim Tola
	Duru Kasmar
	Ganju Tola
	Jaduguda
	Jharna Tola
	Jogwa Tola
	Muslim Tola
	Sonora
	Sonu Guttu
	Sukrigud
	Turi Tola
	Upper Dera Tola
Germany	Berrenrath
	Garzweiler
	Grefrath
	Habbelrath
	Haidemühl
	Horno
	Konigshoven
	Lich-Steinstrab
	Morken-Harff



	Mödrath
<b>China</b>	Look Niu
	Korng Hak
	Kung Nim
	Mong Khamg
	Nam Arng
	Nam Par Moong
	Nam Poon
	Paeng
	Peng Oo
	Ta Sarm Poo
	Wan Parmg
<b>Mali</b>	Farabakouta
	Niamboulama
	Sadiola
<b>Serbia</b>	Vreoci
<b>Sierra Leone</b>	Foinda

Source: T.E. Downing, J. Moles, I. McIntosh Ian and C. Garcia-Downing, *Indigenous Peoples and Mining: Strategies and Tactics for Encounters*, International Institute for Environment and Development, London, 2002.

Ga-Pila (South Africa); Motlhotlo (South Africa); Chiadzwa (Zimbabwe); Sadiola Hill (Mali); Yatela (Mali); Haidemühl (Germany); Moatize (Mozambique); B'laan (Philippines); Kasibu (Philippines); Nueva (Philippines); Vizcaya (Philippines); Igorot (Philippines); Ayllu Jesus de Machaca (Bolivia)

## **Annex B.**

**The most well-known examples of mining-induced displacement and resettlement around the world:**

<b>Region/Country</b>	<b>Type of resource</b>
<b>Tarkwa region (Ghana)</b>	Gold mining
<b>Jharkhand, West Bengal and Orissa regions (India)</b>	Coal and copper mining
<b>Andhra Pradesh (India)</b>	Bauxite industry
<b>Grasberg Mine, Ok Tedi Mine, Porgera Mine (Papua Island)</b>	Gold, silver and copper mining
<b>Peru</b>	Copper mining
<b>Chile</b>	Copper mining
<b>Germany (100,000 people resettled over the last sixty years)</b>	Lignite industry
<b>Poland</b>	Lignite mining
<b>Philippines</b>	Coal mining
<b>Zimbabwe</b>	Diamond mining
<b>Mozambique</b>	Coal mining
<b>Mali</b>	Gold mining
<b>Namibia</b>	Copper and gold mining

## About the author

Bogumil Terminski is an author of 35 peer-reviewed publications, including 3 books in Polish: *International Protection of Migrant Workers' Rights: Origins, Institutions and Impact* (2011), *Development-Induced Displacement: A New Category of Forced Resettlement* (2012), and *Environmentally-Induced Displacement* (2012 – in press). He is mostly known for research papers published under the auspices of UNHCR (*New Issues in Refugee Research* series) as well as cooperation with the *Harvard International Review*. Currently, he is working on an English book entitled, *Human Rights in Times of Transition*.

## Keywords:

mining, displacement, resettlement, relocation, development-induced displacement, mining-induced displacement, forced migration, lignite mining, open-cast mining, open-pit mine, open-pit mining, Vreoci, Tarkwa, Neu Horno, Jarkhand, Kimberley, Singrauli, Phulbari, Bangladesh, coal, brown coal mining, lignite, copper, diamonds, human rights, indigenous people, tribal people, international environmental law, environmentally-induced displacement, deforestation, forced migration, migration policy, politics of displacement, tribal rights, international law, World Bank, UNHCR, humanitarian affairs, DPs, Grasberg Mine, Ok Tedi Mine, Progera Mine, Sadiola, Syama, Morila, Chiadzwa, Murowa, development, political economy, titanium mining, Kwale, involuntary resettlement, involuntary relocation,